

Using remote sensing for controlling spread of leafy spurge in rangeland

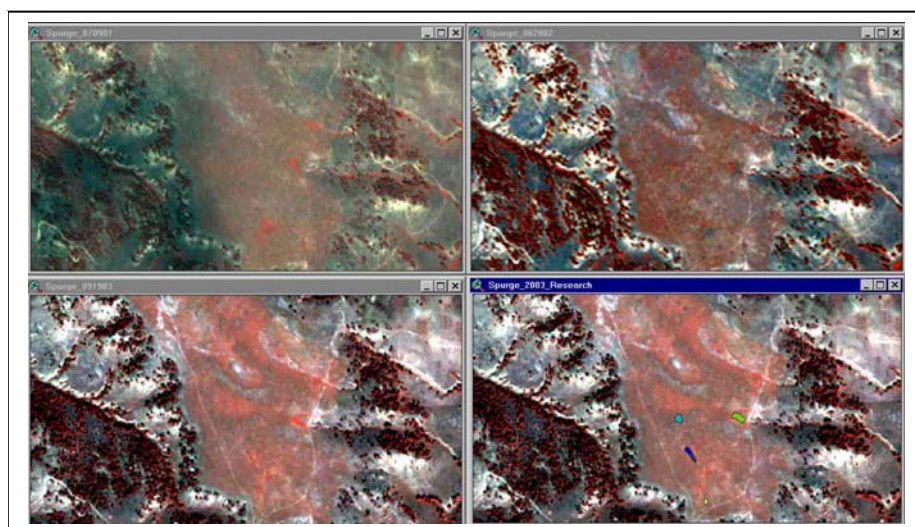
Background:

Users received one Ikonos scene for each of the last three years from the UMAC Team Express web site. The higher resolution scenes have helped them locate and monitor small areas of noxious weed, such as Leafy Spurge. The bright red leafy spurge areas on the divide in the center of the following scenes are on a neighbor's property but very close to their property boundaries.

Small undetectable areas of leafy spurge have been located up to a few miles outside this area and they presume the weeds are being spread by wildlife, mainly deer and antelope because they are in areas where wildlife will bed down.

Use of Data:

The ranchers have been working with the neighbor in order to prevent the spread of leafy spurge. Four or five bright red spots are visible (5 to 20 meters in diameter) in the 2001 top left scene. The spots are not as visible in the 2002 top right scene as it was a very dry year and the county sprayed most of the visible areas. The spots are again visible in the 2003 bottom left scene, at which time; they worked with the neighbor and released leafy spurge insects within the four polygon areas that are slightly visible in the bottom right scene.



Leafy spurge area – 2001 (top left), 2002 (top right), 2003 (bottom left) and 2003 four research sites (bottom right)

One bright red spot to the north and lightly east of the green polygon in the bottom right scene is an area where leafy spurge was sprayed by the county in 2002, but new plants within and around the perimeter of the sprayed patch is coming back in late 2003.

Economic and Environmental Benefits:

A combination of insects on the larger areas in the center of the infected area and hand spraying small (1 to 5 meter) areas on the perimeter of the area is being used as the control method.

The spraying done to check the spread of leafy spurge over the rangeland has resulted in considerable economic profits.